

## REMARKS

### I. STATUS OF THE CLAIMS

Claims 11, 14, 15 and 19 have been amended. Claims 11, 12, 14-16, 18-20 and 22 are pending and under consideration. Applicants submit that no new matter has been added.

### II. REJECTION UNDER 35 U.S.C. § 102(e)

Claims 11-13, 15-17 and 19-21 were rejected under 35 U.S.C. § 102(e) as being anticipated by Takeda et al., (U.S. 7,076,620). This rejection is respectfully traversed.

Claim 11 as amended, for example, recites a "method of backing up data stored in a first virtual storage associated with a source physical storage... the source physical storage comprising a number of used blocks containing actual data and a number of unused blocks containing no actual data... comprising:

identifying the used blocks containing actual data in the source physical storage;

providing a second virtual storage associated with at least one physical storage, the second virtual storage being smaller than the first virtual storage and having a size corresponding to the number of used blocks containing actual data stored in the first virtual storage;

creating an address correspondence table between one or more block addresses of the actual data in the first virtual storage and sequential block addresses in the second virtual storage..." (emphasis added).

As recited in claim 11, for example, the source physical storage includes both used blocks which contain actual data, and unused blocks which do not contain actual data. Accordingly, before the backup operation is executed, the used blocks are identified. By identifying only the used blocks containing data, an efficiency is created in that the size of a second virtual storage corresponds to what is necessary to store only the used blocks containing actual data. Therefore, the second virtual storage does not utilize more resources than necessary.

Takeda fails to describe, teach, or suggest such an efficiency. In Contrast, in Takeda all data blocks of a first volume ("PVL") are stored in the journal volume ("JNL") regardless of whether the data blocks contain actual data. The Office Action asserts that Takeda [Fig. 14, element 20] describes the feature of "providing a second virtual storage associated with at least one physical storage..." as recited in claim 11 (see Office Action pg. 3, line 8). In Figure 14 of

Takeda, however, the JNL of element 10 stores *all* the data of the PVOL of element 10. The JNL of *element 20* then stores *all* the data of the JNL of element 10 (see Figure 14, for process). In other words, Takeda prepares a JNL having the same capacity as the PVOL, without identifying the used blocks containing actual data in the PVOL. This assertion is furthered by Takeda describing “storing journal data and metadata in the journal volume... after each write operation to PVOL... [t]he journal data [being] a copy of the data written or updated according to the write command” (col. 6, lines 43-47). Accordingly, Takeda does not describe limiting the size of the JNL to a size necessary to store only the used blocks of the PVOL.

Therefore, Takeda fails to describe, teach, or suggest at least the features of “identifying the used blocks containing actual data in the source physical storage” and “providing a second virtual storage associated with at least one physical storage, the second virtual storage being smaller than the first virtual storage and having a size corresponding to the number of used blocks containing actual data stored in the first virtual storage” as recited by amended claim 11.

In addition, Takeda fails to describe, teach, or suggest “creating an address correspondence table between one or more block addresses of the actual data in the first virtual storage and sequential block addresses in the second virtual storage” as recited, for example, in claim 11. The Office Action cites Takeda [Fig. 14, element 300B; and col. 18, lines 32-40] as describing this feature. The contention is respectfully traversed.

The relevant cite, merely describes associating a virtual storage with a physical storage by using a “virtual storage image” (see col. 18, lines 37-40). As recited in claim 11, for example, the address correspondence table is created by extracting block addresses of *actual data* (see Figure 10 of the present application). The actual data is dispersed throughout the source physical storage as understood by those of ordinary skill in the art, and accordingly, the source physical source also has dispersed throughout unused blocks. As recited by claim 11, for example, only *actual data* corresponds to the “sequential block addresses in the second virtual storage.” Takeda fails to describe, teach, or suggest such a feature.

Therefore, claim 11 patentably distinguishes over Takeda for at least the above-mentioned reasons.

Amended independent claims 15 and 19 recite similar features, with potentially differing scope and breath, and therefore, also patentably distinguish over Takeda for at least the above mentioned reasons.

Claims 12, 14 and 16, 18 and 20, 22, inherit the patentable recitations of their respective base claims, and therefore, patentably distinguish over Takeda for at least the above mentioned reasons, as well as for the additional features recited therein.

Accordingly, applicants respectfully request the 35 U.S.C. 102(e) rejection be withdrawn.

### **III. EXAMINER'S FAILURE TO RESPOND TO PRIOR ARGUMENTS**

On page 6 of the current Office Action, the Examiner fails to address applicant's argument. The Examiner concedes that "Takeda does not specifically disclose NOT checking whether each block is copied to the backup medium." (see also pg. 3, bold portion on bottom of page). The Examiner, however, fails to provide a reason for why Takeda still anticipates the applicants claim language. Only a conclusory statement ("Therefore, Takeda still anticipates the applicant's claim language") is given (see page 6 of the Office Action). As noted in MPEP 7-6.07(f), a failure of the Examiner to address the applicant's traversals can be deemed a failure to rebut these arguments so as to admit that the arguments have overcome the rejection. At the very least, the failure to address the applicant's traversals would render the Examiner's decision to again reject the claims arbitrary and capricious and invalid under the Administrative Procedures Act, 5 U.S.C. 706, the standard under which such rejections are reviewed in view of Dickson v. Zurko, 527 U.S. 150. Accordingly, applicants respectfully request the Examiner to specifically address the previous traversal or withdraw the assertion.

### **IV. CONCLUSION**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.


Serial No. 10/784,157

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 8/3/17

By:   
J. Randall Beckers  
Registration No. 30,358

1201 New York Avenue, NW, 7th Floor  
Washington, D.C. 20005  
Telephone: (202) 434-1500  
Facsimile: (202) 434-1501